IN THE CLAIMS

The following claim listing replaces all prior listings and versions thereof:

1. (Previously Presented) A cam mechanism for a lens barrel, the mechanism comprising:

a cam ring comprising a cam groove which is open at one end;

a support ring supporting an imaging component, the support ring having a cam follower engageable with said cam groove and movable therein towards and away from said open end, wherein the support ring is movable along an axis relative to the cam ring without rotation; and

a movement limiter configured to stop or limit disengagement of the cam follower from said open end of the cam groove.

2. (Original) The cam mechanism according to claim 1, wherein said movement limiter is configured to stop the cam follower from moving out of said open end of the cam groove and disengaging therefrom.

3. (Original) The cam mechanism according to claim 1, wherein said movement limiter stops the cam follower once the cam follower has moved out of the open end of the cam groove and has been disengaged therefrom.

4. (Original) The cam mechanism according to claim 1, wherein said movement limiter comprises mutually engageable stop surfaces respectively located on the cam ring and support ring.

5. (Original) The cam mechanism according to claim 4, wherein said movement limiter comprises:

at least one protuberance located on a peripheral surface of said cam ring on which said cam

groove is located; and

at least one stop surface located on one of opposite ends of said support ring in a direction of said axis and configured to contact said protuberance.

6. (Original) The cam mechanism according to claim 4, wherein said movement limiter comprises:

at least one protuberance located on a peripheral surface of said support ring facing said cam ring; and

at least one stop surface located on one of opposite ends of said cam ring in the direction of said axis and configured to contact said protuberance.

7. (Original) The cam mechanism according to claim 1, wherein a width of said open end is greater than a width of the immediately adjacent portion of said cam groove.

8. (Original) The cam mechanism according to claim 1, wherein the other end of said cam groove is open such that said cam follower is insertable in the other end.

9. (Original) The cam mechanism according to claim 1, wherein the cam groove is located on an outer peripheral surface of said cam ring.

10. (Original) The cam mechanism according to claim 1, wherein the cam mechanism is incorporated in a zoom lens.

11. (Previously Presented) The cam mechanism according to claim 1, wherein said cam groove has a zooming section configured to move said imaging component supported by said support ring, and an accommodating section configured to accommodate said support ring in a retracted

position thereof.

12. (Original) A cam mechanism of an imaging system, comprising:

a linearly movable ring which supports an imaging element, having a cam follower, and guided linearly in an axis direction without rotating; and

a cam ring including a cam groove in which said cam follower is engageable,

wherein said cam groove comprises:

an image control section configured to move said linearly movable ring to an imaging position in said axis direction; and

a standby section configured to move said linearly movable ring to a standby position different from said imaging position in said axis direction, one of opposite ends of said cam groove having an open end such that a portion of said cam groove including said open end serves as said standby section, and

wherein said cam mechanism further comprises a movement limiter configured to limit movement of said linearly movable ring relative to said cam ring in a direction of disengaging said cam follower from said cam groove through said open end in said standby section when said cam follower is positioned in said standby section.

13. (Original) The cam mechanism according to claim 12, wherein said movement limiter is located on said linearly movable ring and said cam ring.

14. (Original) The cam mechanism according to claim 13, wherein said movement limiter comprises:

at least one protuberance located on a peripheral surface of said cam ring on which said cam groove is located; and

at least one stop surface located on one of opposite ends of said linearly movable ring in said optical axis direction and configured to contact said protuberance.

15. (Original) The cam mechanism according to claim 13, wherein said movement limiter comprises:

at least one protuberance located on a peripheral surface of said linearly movable ring facing said cam ring; and

at least one stop surface located on one of opposite ends of said cam ring in said optical axis direction and configured to contact said protuberance.

16. (Original) The cam mechanism according to claim 12, wherein a width of said standby section of said cam groove is greater than a width of said image control section of said cam groove.

17. (Original) The cam mechanism according to claim 12, wherein the other of said opposite ends of said cam groove is a second open end such that said open end and said second open end are open on opposite end surfaces of said cam ring in said optical axis direction, respectively, wherein said cam follower is insertable into said cam groove through said second open end.

18. (Original) The cam mechanism according to claim 12, wherein said imaging system is a retractable zoom lens which is retractable into a camera body;

wherein said imaging system includes a plurality of optical elements including said imaging element;

wherein said image control section includes a zooming section configured to move said imaging element, which is supported by said linearly movable ring, in said axis direction relative to another imaging element included in said plurality of optical elements, in a predetermined moving manner to change focal length; and,

wherein said standby section includes an accommodating section which accommodates said linearly movable ring in a retracted position thereof when said imaging system is retracted into said camera body.

19. (Original) A cam mechanism of an imaging system, comprising:

a linearly movable ring which supports an imaging element, having a cam follower, and guided linearly in an axis direction without rotating; and

a cam ring including a cam groove in which said cam follower is engageable, said linearly movable ring movable between an imaging position and a standby position due to engagement of said cam follower with said cam groove when said cam ring rotates,

wherein one of opposite ends of said cam groove having an open end such that said cam follower is disengaged from said cam groove through said open end when said linearly movable ring is positioned in said standby position, and

wherein said cam mechanism further comprises a movement limiter configured to limit movement of said linearly movable ring relative to said cam ring in a direction of movement of said cam follower away from said open end when said cam follower is disengaged from said cam groove through said open end.

20. (Original) The cam mechanism according to claim 19, wherein said movement limiter is located on said linearly movable ring and said cam ring.

21. (Original) The cam mechanism according to claim 20, wherein said movement limiter comprises:

at least one protuberance located on a peripheral surface of said cam ring on which said cam groove is located; and

at least one stop surface located on one of opposite ends of said linearly movable ring in said optical axis direction and configured to contact said protuberance.

22. (Original) The cam mechanism according to claim 20, wherein said movement limiter comprises:

at least one protuberance located on a peripheral surface of said linearly movable ring facing said cam ring; and

at least one stop surface located on one of opposite ends of said cam ring in said optical axis direction and configured to contact said protuberance.

23. (Original) The cam mechanism according to claim 19, wherein opposite ends of said cam groove are open on opposite end surfaces of said cam ring in said optical axis direction, respectively, wherein said cam follower is insertable into said cam groove through the other of said opposite ends of said cam groove.

24. (Original) The cam mechanism according to claim 19, wherein said imaging system is a retractable zoom lens which is retractable into a camera body, and

wherein said linearly movable ring is movable into said standby section when said imaging system is retracted into said camera body

25. (New) A digital camera having a body, a lens barrel and a cam mechanism for the lens barrel, the cam mechanism and lens barrel housed within the body, the cam mechanism comprising:

a cam ring comprising at a cam groove which is open at one end;

a support ring supporting an imaging component, the support ring having a cam follower engageable with said cam groove and movable therein towards and away from said open end, wherein the support ring is movable along an axis relative to the cam ring without rotation; and

a movement limiter configured to stop or limit disengagement of the cam follower from said open end of the cam groove.

26. (New) The camera according to claim 25, wherein said movement limiter is configured to stop the cam follower from moving out of said open end of the cam groove and disengaging therefrom.

27. (New) The camera according to claim 25, wherein said movement limiter stops the cam follower once the cam follower has moved out of the open end of the cam groove and has been disengaged therefrom.

28. (New) The camera according to claim 25, wherein said movement limiter comprises mutually engageable stop surfaces respectively located on the cam ring and support ring.

29. (New) The camera according to claim 25, wherein a width of said open end is greater than a width of the immediately adjacent portion of said cam groove.

30. (New) The camera according to claim 25, wherein the other end of said cam groove is open such that said cam follower is insertable in the other end.

31. (New) The camera according to claim 25, wherein the cam groove is located on an outer peripheral surface of said cam ring.

32. (New) The camera according to claim 25, wherein the cam mechanism is incorporated in a zoom lens.

33. (New) The camera according to claim 25, wherein said cam groove has a zooming section configured to move said imaging component supported by said support ring, and an accommodating section configured to accommodate said support ring in a retracted position thereof.

STATEMENT OF SUBSTANCE OF INTERVIEW

Applicant wishes to express his appreciation to Examiner Smith for the interview of December 28, 2004. During the interview, Applicant's representative, Attorney William Boshnick, spoke to the Examiner concerning the rejected claims of the present invention. Specifically, Attorney Boshnick showed a model of an embodiment of the present claimed invention as well as a model similar to that disclosed in the applied NOMURA US 2001-0019458 Publication (in which the present inventor is a common inventor), and demonstrated how this reference failed to teach or suggest the invention as claimed in rejected claims 1-24. The Examiner agreed that the prior art of record fails to teach or suggest at least the feature wherein: a support ring supports an imaging component (with respect to independent claims 1, 12, and 19); one of opposite ends of said cam groove having an open end such that a portion of said cam groove including said open end serves as said standby section (with respect to independent claim 12); and one of opposite ends of said cam groove having an open end such that said cam follower is disengaged from said cam groove through said open end when said linearly movable ring is positioned in said standby position (with respect to independent claim 19). However, the Examiner indicated that he would conduct an updated search before making a final decision on allowance. Additionally, Attorney Boshnick noted that, with respect to the applied DiRisio patent, the Japanese priority documents of the present application have an earlier filing date than that of DiRisio, and that Applicant intends to submit a verified translation of these priority documents to perfect priority under 35 U.S.C. § 119 and remove DiRisio as a reference.